

CLAIMS

1. A frame for mounting at least one heat exchanger in a vehicle,
2 comprising:
4 a longitudinal side and a transverse side, at least one of said sides being
adjustable in length in the direction of the side;
6 fasteners on said sides adapted to fasten to said at least one heat
exchanger between said sides; and
8 supports on said sides adapted to secure to a vehicle to support said frame
therein.
2. The frame of claim 1, wherein at least one of said sides is
2 biased toward another of said sides for fastening said fasteners to said at least one
heat exchanger.
3. The frame of claim 1, wherein said sides are plastic members,
2 and further comprising a reinforcement on at least one of said plastic members.
4. The frame of claim 1, wherein said at least one side is infinitely
2 adjustable in length.
5. The frame of claim 1, wherein said at least one side is
2 incrementally adjustably in length.

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6. The frame of claim 1, wherein said longitudinal and transverse
sides comprise a pair of longitudinal sides extending between a pair of transverse
sides, at least one of said pair of sides being adjustable in length in the direction of
the pair of sides.

7. The frame of claim 6, further comprising:
a first generally U-shaped frame member with two arms projecting on one of
said longitudinal and transverse directions;
a second generally U-shaped frame member with two arms projecting in
said one of said longitudinal and transverse directions; and
arm fasteners adapted to selectively secure the two arms of said first frame
member to the two arms of said second frame member whereby said
sides of said one pair of sides have a selected length.

8. The frame of claim 7, wherein said two arms of said first frame
member are substantially equal in length to one another, and said two arms of said
second frame member are substantially equal in length to one another.

9. The frame of claim 7, wherein said two arms of said first frame
member are different in length than said two arms of said second frame member.

10. The frame of claim 7, further comprising a crosspiece between
said two arms of at least one of said first and second frame members.

11. The frame of claim 7, wherein said first frame member is
plastic and said second frame member is metal.

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12. The frame of claim 7, wherein:

4 said arms of said first frame member include channels along their length
and said arms of said second frame member are received in said
6 channels; and
said first frame member is plastic and said second frame member is metal.

13. The frame of claim 1, further comprising:

2 a first angle frame member having a pair of arms oriented in an L;
a second angle frame member having a pair of arms oriented in an L;
4 wherein one arm of said first angle frame member and one arm of said
second angle frame member are adjustably securable to one another
6 along their lengths to define said adjustable side.

14. The frame of claim 13, further comprising:

2 a third angle frame member having a pair of arms oriented in an L;
a fourth angle frame member having a pair of arms oriented in an L;
4 wherein
one arm of said third angle frame member and one arm of said fourth
6 angle frame member are adjustably securable to one another
along their lengths to further define said adjustable one of said
8 longitudinal and transverse sides, and
said other of said longitudinal and transverse sides is adjustable and
10 defined by adjustably securable other arms of said first and
third angle frame members and adjustably securable other
12 arms of said second and fourth angle frame members.

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15. The frame of claim 14, wherein said first, second, third and
2 fourth angle frame members are substantially the same configuration.

16. The frame of claim 15, further comprising, with each angle
2 frame member, an angle crosspiece between the L-oriented pair of arms

17. The frame of claim 16, further comprising, with each angle
2 frame member, a slit at one end of the angle crosspiece adapted to receive the
crosspiece of an adjacent angle frame member when said one arms of said angle
4 frame members are adjustably secured in a position in which said crosspieces
overlap.

18. The frame of claim 13, further comprising, with each angle
2 frame member, an angle crosspiece between the L-oriented pair of arms

19. The frame of claim 18, further comprising a slit in one angle
2 crosspiece adapted to receive the other crosspiece when said one arms of said
frame members are adjustably secured in a position in which said crosspieces
4 overlap.

20. The frame of claim 19, wherein said one arms of said frame
2 members are adjustably securable in a position in which said crosspieces do not
overlap.

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21. The frame of claim 20, wherein said one angled crosspiece is
2 associated with the first angle frame member and includes two legs spaced from
front to back at least at the connection of said one angled crosspiece to said one
4 arm of said first angle frame member, and the other angled crosspiece associated
with the second angle frame member is arranged front to back to be received
6 between the spaced legs of the one angled crosspiece.

22. The frame of claim 13, wherein said one arm of said first frame
2 member is adjustably received in a channel defined by said one arm of said second
frame member.

23. The frame of claim 22, further comprising a locking member for
2 securing said one arm of said first frame member in a selected position in the
channel defined by said one arm of said second locking member.

24. The frame of claim 13, wherein said first angle frame member
2 one arm is infinitely adjustable relative to said second angle frame member one
arm.

25. The frame of claim 13, further comprising:
2 a slit defined in said one arm of said first angle frame member; and
a fastening element fixed relative to said second angle frame member and
4 extending through said slit, said fastening element adapted to
selectively secure to said first angle frame member.

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26. The frame of claim 13, wherein said first and second angle
2 frame members define three sides of said frame, and further comprising a
crosspiece securable to said first and second angle frame members to define a
4 fourth side of said frame.

27. The frame of claim 26, wherein said crosspiece defining said
2 fourth side is U-shaped and includes arms securable to said other arms of said first
and second angle frame members.

28. A heat transfer device, comprising:
2 a frame according to claim 1; and
at least two heat exchangers, wherein said frame fasteners are biased
4 toward said heat exchangers to fasten said at least two heat
exchangers between said frame sides.

29. The heat transfer device of claim 28, wherein said at least two
2 heat exchangers are arranged side by side in said frame.

30. A heat transfer device, comprising:
2 a frame according to claim 1; and
at least two heat exchangers, each including headers on their top and
4 bottom, and said fasteners are on top and bottom sides of said frame
and fasten said frame to said heat exchanger headers.

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31. A heat transfer device, comprising:

2 a frame according to claim 1; and

at least one heat exchanger in said frame;

4 wherein said frame fasteners comprise

an opening defined in said frame;

6 a pin extending between said frame and said heat exchanger and
said opening; and

8 a vibration damping element between said pin and said defined
opening.

32. The heat transfer device of claim 31, wherein said opening is

2 conically shaped, and said pin is shaped to correspond to said opening shape.

33. A heat transfer device, comprising:

2 a frame according to claim 1; and

at least one heat exchanger in said frame;

4 wherein said heat exchanger is substantially entirely secured to said frame
by said fasteners, and said fasteners are elastic.